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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,416	01/03/2006	Ronald Dekker	NL03 0786 US1	4530

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EXAMINER	
NADAV, ORI	

ART UNIT	PAPER NUMBER
2811	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/563,416	DEKKER ET AL.	
	Examiner	Art Unit	
	Ori Nadav	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-10 and 21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-10 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 January 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the semiconductor elements, as recited in claim 1, the active area of the substrate is in the shape of a mesa, as recited in claim 4, the integrated circuit is subdivided into a plurality of circuit blocks interconnected through the interconnect structure, as recited in claim 8, a perpendicular projection of the integrated circuit onto the electrically conductive layer of the antenna at least substantially overlaps with the antenna, as recited in claim 10, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-2, 4-10 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claimed limitation of an integrated circuit, as recited in claim 1, is unclear to the structural relationship between the integrated circuit and the semiconductor device.

The claimed limitation of "semiconductor substrate being substantially confined to an area of the integrated circuit", as recited in claim 1, is unclear as to what is meant by a semiconductor substrate being substantially confined to an area of the integrated circuit since the semiconductor substrate and the integrated circuit are two separate and distinct elements.

The claimed limitation of a semiconductor substrate being absent in a non-substrate area around the antenna, as recited in claim 1, is unclear to which location is meant by the phrase “area around the antenna”.

The claimed limitation “the active area of the substrate”, as recited in claim 4, is unclear as to what is meant by “the active area of the substrate” since the semiconductor substrate is formed in the active area.

The claimed limitation of “a perpendicular projection of the integrated circuit onto the antenna at least substantially overlaps with the antenna”, as recited in claim 10, is unclear how the perpendicular projection of the integrated circuit overlaps with the antenna since the integrated circuit 5 is spaced apart from the antenna 6.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 5-7 and 21, as best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Hirai et al. (6,607,135).

Hirai et al. teach in figure 1 and related text an apparatus being a flexible semiconductor device comprising:

a semiconductor substrate (located within chip 2) formed in an active area;

an integrated circuit 2 provided with a plurality of semiconductor elements (inside chip 2), that are defined at a surface of the semiconductor substrate, the semiconductor substrate having a suitable thickness so as to be flexible, wherein the plurality of semiconductor elements are interconnected according to a desired pattern in an interconnect structure,

a support layer 4 of electrically insulating material, and

an antenna 3, which is located laterally outside the active area is electrically connected to the interconnect structure, the antenna and the integrated circuit being supported by the support layer, and the semiconductor substrate being substantially confined to an area of the integrated circuit and being absent in a non-substrate area around the antenna and between the antenna and the integrated circuit,

wherein the integrated circuit is devoid of any bond pad structures,

wherein the semiconductor substrate is present only in the active area,

wherein the antenna is an inductor suitable for wireless communication, and

wherein the integrated circuit is substantially surrounded by the inductor.

Regarding claim 21, Hirai et al. teach the antenna and the integrated circuit are on opposite sides of the interconnect structure, because the interconnect structure is located between the antenna and the integrated circuit.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4 and 8-10, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al. (6,607,135).

Regarding claim 4, Hirai et al. teach in figure 1 and related text substantially the entire claimed structure, as applied to claims above, except forming the active area of the substrate in a shape of a mesa.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the active area of the substrate in a shape of a mesa in Hirai et al.'s device in order to provide better electrical isolation to the active area.

Regarding claims 8-9, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to subdivide the integrated circuit into a plurality of circuit blocks, which are mutually spaced apart, and interconnected through the

interconnect structure, wherein the plurality of circuit blocks are formed in the active area in Hirai et al.'s device, in order to use the device in an application which requires plurality of circuit blocks.

Regarding claim 10, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to form a perpendicular projection of the integrated circuit onto the antenna at least substantially overlaps with the antenna in Hirai et al.'s device in order to reduce the size of the device.

Response to Arguments

Applicant argues that Hirai does not teach "semiconductor substrate being substantially confined to an area of the integrated circuit and being absent in a non-substrate area around the antenna and between the antenna and the integrated circuit", because the semiconductor substrate 1 of Hirai extends to areas of the IC chip 2 and the antenna 3.

The semiconductor substrate 1 of Hirai is not used to read on the claimed limitation of "semiconductor substrate being substantially confined to an area of the integrated circuit and being absent in a non-substrate area around the antenna and between the antenna and the integrated circuit". The semiconductor substrate within chip 2 is used to read on the above claimed limitation. The semiconductor substrate 1 of Hirai is equivalent to the applicant's substrate 30, which the claim calls "a support layer".

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ori Nadav whose telephone number is 571-272-1660. The examiner can normally be reached between the hours of 7 AM to 4 PM (Eastern Standard Time) Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Gurley can be reached on 571-272-4670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

O.N.
3/9/2009

/ORI NADAV/
PRIMARY EXAMINER
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